

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT(S) Bich-Yen Nguyen et al. GROUP ART UNIT:
APPLN. NO.: EXAMINER:
FILED:
TITLE: HIGH K DIELECTRIC FILM AND METHOD FOR MAKING

Certificate of Mailing

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PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Please enter the following amendments in the above-entitled application, without prejudice or disclaimer.

REPLACEMENT PARAGRAPHS

Replace the paragraph on page 6, beginning at line 7, with:

This lanthanum aluminate provides much benefit in the area of optimizing the dielectric coefficient and low leakage. Some other materials have identifiable deficiencies. For example, lanthanum oxide has a dielectric constant that is in the right range but it absorbs water. The absorption of water is very detrimental to desirable manufacturing of integrated circuits. For example, the absorption of water by lanthanum oxide results in structural integrity problems. It becomes soft which would make it unusable in forming an integrated circuit structure. Aluminum oxide, for example, has a problem of too low of a dielectric constant. The dielectric constant of aluminum oxide is somewhat higher than silicon oxide but is not sufficiently more as to make it usable for continuous scaling. So there may be some solitary process geometry for which aluminum oxide may be usable but subsequent generations, where the dimensions would become smaller, would not be workable.

REPLACEMENT CLAIMS

13. (Amended) The semiconductor structure of claim 12, wherein the first conductive layer is a floating gate.

REMARKS

The above amendments to the specification and claim 13 are to correct minor errors and do not introduce new matter.

No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

Applicants believe the application is in condition for allowance which action is respectfully solicited. Please contact the below-signed if there are any issues regarding this communication or otherwise concerning the current application.

Respectfully submitted,

SEND CORRESPONDENCE TO:

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PARAGRAPHS - VERSION WITH MARKINGS TO SHOW CHANGES MADE

At page 6, line 17

This lanthanum aluminate provides much benefit in the area of optimizing the dielectric coefficient and low leakage. Some other materials have identifiable deficiencies. For example, lanthanum oxide has a dielectric constant that is in the right range but it absorbs water. The absorption of water is very detrimental to desirable manufacturing of integrated circuits. For example, the absorption of water by lanthanum oxide results in structural integrity problems. It becomes soft which would make it unusable in forming an integrated circuit structure. Aluminum oxide, for example, has a problem of [two] too low of a dielectric constant. The dielectric constant of aluminum oxide is somewhat higher than silicon oxide but is not sufficiently more as to make it usable for continuous scaling. So there may be some solitary process geometry for which aluminum oxide may be usable but subsequent generations, where the dimensions would become smaller, would not be workable.

CLAIMS - VERSION WITH MARKINGS TO SHOW CHANGES MADE

13. (Amended) The semiconductor structure of claim 12, wherein the [second] first conductive layer is a floating gate.